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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,773	09/30/2003	Victor C. Li	UOM 0286 PUS	4443

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EXAMINER	
MARCANTONI, PAUL D	

ART UNIT	PAPER NUMBER
1755	

DATE MAILED: 02/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/674,773	LI ET AL.	
	Examiner	Art Unit	
	Paul Marcantoni	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 18-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 18-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Applicant's arguments filed 11/28/05 have been fully considered but they are not persuasive.

Obviousness-Type Double Patenting:

The applicants' submission of a proper terminal disclaimer has overcome this ODP rejection.

35 USC 112 First Paragraph and 35 USC 132-New Matter:

Claims 1-12 and 18-23 are rejected under the first paragraph of 35 USC 112 and 35 USC 132 as the specification as originally filed does not provide support for the invention as is now claimed.

The applicants' insertion of the limitation "other than calcium aluminate cement" as a negative limitation to distinguish the cement fraction from potentially the non-Newtonian additive such as calcium aluminate is new matter. There is no literal support for this new matter negative limitation in the original disclosure.

New claims 18-23 would appear to be new matter. Should applicants show the location of support for each claim from their original disclosure (specification and original claims), this rejection over claims 18-23 will be promptly withdrawn.

35 USC 112 Second Paragraph:

Claims 1-12 and 18-23 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

Claim 1 remains indefinite because the cement fraction is also an inorganic Non-Newtonian additive (components a) and c)). The non-Newtonian additive can be

calcium aluminate and claim 1 a) only requires cement fraction which also can be calcium aluminate. How do applicants distinguish between component a and c?

It is also noted that additives such as cement and aggregate (e.g. fly ash or sand) can be considered "viscosity control agents" or thickeners because they will affect the viscosity of the overall cement composition (see claim1). Applicants may consider insertion of the actual viscosity control agents into claim 1 to avoid this indefiniteness.

The applicants properly and clearly define "associative thickener" on page 7 of their 8/31 response and it is a definite term.

The term "high" density polyethylene polymers in applicants' claims has now been defined as having a density in excess of 0.941, and generally in the range of 0.941 to 0.965. This was done on page 6 of applicants' after final response of 8/31/05. It is thus not indefinite as applicants do particularly point out its meaning for their invention. If applicants have the teaching of the reference that states this fact, they are respectfully requested to submit it as part of an IDS in their next response. If the examiner has access to a teaching of this fact, he will refrain from making these indefiniteness rejections over "high density polyethylene" in the future.They may even wish to consider adding the range into their specification if after review they consider it proper so this term is also defined in the specification. It is the examiner's understanding that this is not new matter to add the inherent property of high density or low density polyethylene to the specification. It assists anyone who later reads the specification for a clear definition of these terms. So they may consider adding this range and/or the range for low density polyethylene to their specification if it is proper to do so. In the same regard,

applicants may even consider adding this range for high density polyethylene as having a density in excess of 0.941 if this is an inherent property for this material. It is the examiner's understanding once again that this is not new matter but applicants may wish to further check the MPEP to verify this understanding.

35 USC 103:

Claims 1-12 and18-23 are rejected under 35 U.S.C. 103(a) as obvious over *Baeuml et al. '607 B2, Kodama et al. (JP 2001220188-abstract only), Kanda et al. (JP 2002193653-abstract only),* O'Connell et al. '602 or '039, Blounts '650, Zimmerman (DE 2703342-abstract only), Ding (CN 1137051-abstract only), or Hatschek et al. (DE 2816457-abstract only) alone or in view of Aadnoy et al. and Papadakis.

Note: The italicized references above represent prior art from the previous office action.

Baeuml et al. teach a composition comprising Portland cement (non-Newtonian additive), polyethylene fibers or polyvinyl alcohol fibers (col.3, lines 1-40), and plasticizers (col.5, line 18). Baeuml et al. teach the same components in overlapping amounts and overlapping amounts would have been prima facie obvious to one of ordinary skill in the art.

Kodama et al. (JP 2001220188) teaches a coating material comprising cement, silica sand, superplasticiser, and water. Kodama et al. teach the same components in overlapping amounts and overlapping amounts would have been prima facie obvious to one of ordinary skill in the art.

Kanda et al. (JP 2002193653) teach a cement that is sprayable comprising polyvinyl alcohol short fibers, water, and superplasticizer. Kanda et al. teach the same components in overlapping amounts and overlapping amounts would have been prima facie obvious to one of ordinary skill in the art.

The O'Connell et al. patents teach a composition comprising gypsum which is a hydraulic cement (see col.2, lines 10-15 of '602), polyethylene fibers (col.1, lines 50-51), thickener (ie viscosity control agent) such as celluloses, and a sulfonate superplasticizer (see Example I, col.4). It is the examiner's position that the addition of an aggregate (ie fly ash or sand) and other conventional additives such as superplasticizers to a sprayable cement composition would have been an obvious design choice for one of ordinary skill in the art because they are conventional additives.

Blounts teaches a composition comprising Portland cement (a cement fraction and a non-Newtonian additive), polyethylene fibers, and plasticizer for a spray mortar. He does not appear to define high or low density polyethylene yet this would appear to be within the broad teaching of the reference as it encompasses all types of polyethylene fibers.

Zimmerman (DE '342) teaches a spray mortar comprising white Portland cement (also a non-Newtonian additive), methyle cellulose (viscosity control agent or thickener), and polyethylene fibers (see abstract).

Ding (CN '051) teaches a spray coating cement composition comprising ether polyethylene fibers or polystyrene fibers, methylcellulose (viscosity control agent or thickener), polyvinyl alcohol (also a viscosity control agent), and aggregate. Further the

addition of conventional additives such as superplasticizers would have been an obvious design choice for one of ordinary skill in the art because they are conventionally added to cement compositions.

Hatschek et al. (DE '457) teaches a spray cement composition comprising polyethylene fibers, cement (non-Newtonian additive and a cement fraction and could even control or modify viscosity of overall composition), and water (ie slurry). The addition of viscosity control agents (thickeners) superplasticizers for sprayable cement mixtures is old and conventional in the art. Also, the addition of an aggregate to even sprayable mortars is also old, conventional, and an obvious design choice for one of ordinary skill in the art.

Aadnoy et al. teach it is notoriously known in the art that cement is a non-Newtonian fluid or additive. Papadakis teaches that Portland cement is old and known in the art as a non-Newtonian material when mixed in a water slurry or suspension.

Teaching References

The following references could also been used in the rejection of claim but to do so would have been redundant. Some of these references also provide basic teaching in the art of terms relevant to the instant invention for further understanding.

Rail et al. (US Patent No. 4,266, 889) teaches that cement itself is a non_Newtonian fluid (see col.4, lines 48-49).

McDaniel et al. (US Patent No. 4,316,807) teach that water is a Newtonian fluid (col.2, line 15).

Smith (US Patent No. 5,322,389) provide definitions for the meaning of thixotropic and high shear mixing.

Tkachev et al. teach cement slips are typically non-newtonian. (see abstract).

Mizushina et al. teach a cement-rock (aggregate) slurry is a non-Newtonian fluid (see abstract).

Ivanov et al. teach cement paste has a non-Newtonian flow (abstract)

Kita et al. teach cement + bentonite + water (slurry) is non-Newtonian (see abstract).

Brackenbusch teaches a paste backfill of mine tailings and cement is non-Newtonian (see abstract).

Buchenau et al. teach fresh concrete is a non-Newtonian fluid (see abstract)

Bethmont et al. teach concrete is also a non-Newtonian fluid (see abstract).

Response:

The applicants argue that Kodama fails to teach a pumpable and sprayable composition. Yet, applicants have not provided evidence that it cannot be pumpable or sprayable. Further, the fact that it contains the same components in overlapping amounts as claimed by applicants means the functional properties such as pumpability or sprayability would also be within Kodama's cement composition.

The applicants argue that Kodama fails to teach a strain hardening amount or composition. In rebuttal, applicants do not define or specify anywhere in their claim their type of fiber so this could read upon any fiber. It is improper for applicants' to read the

limitations of the specification into the claims. It is the examiner's position that it this reference teaches adding the polyamide fiber into cement. It is unclear where else it could possibly be added except into the cement. The applicants argue that the fiber size would not be sprayable but yet again provide no experimental evidence to support their position.

The applicants also argue that Kodama fails to teach any "non-Newtonian additive". The examiner disagrees and notes that cement is notoriously known in the art as a non-Newtonian additive.

The applicants argue that Kanda's cement composition is not strain hardening. It appears applicants refer to the addition of strain hardening amount of fibers. Yet, Kanda also uses the same exact fibers by using polyvinyl alcohol fibers. The applicants also argue that their fibers are "oiled". In rebuttal, thre is no indication of any oiled fibers in their claim so applicants argue features not claimed. Again, applicants argue the lack of a "non-Newtonian additive". Yet, cement itself is notoriously known in the art as a non-Newtonian additive. The applicants make the examiner's point because they state a non-Newtonian additive is a distinguishable feature over the prior art. It respectfully is not because Kanda teaches cement, a non-Newtonian additive.

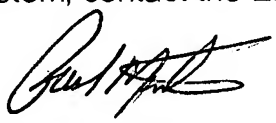
The applicants argue intended use of Baeuml. The new use of a known composition, however, is not a patentable distinction. The applicants also argue functional limitations and physical properties such as interfacial chemical bonding, ~~starin~~ strain hardening behavior, etc. Yet, Baeuml teaches the same components as claimed by

applicants including a Portland cement (a non Newtonian additive), polyvinyl alcohol fibers, plasticizers (col.5, line 18), etc.

The applicants respectfully request the examiner provide the column and line number for the location of the teaching of the reference. The examiner always does so and this action also provides this information. It is hoped likewise that the applicants can also provide column and line number and pages and original claim numbers when they present new claims in an amendment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Marcantoni
Primary Examiner
Art Unit 1755